

Application No. 09/527,137
Amendment "A" dated April 20, 2004
Reply to Office Action mailed February 25, 2004

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In a device having ~~one or more~~ a plurality of electronic program guide (EPG) loaders ~~that are each configured to enabling the device to receive EPG data from one or more EPG sources, a method for interfacing the one or more EPG loaders with a database associated with the device, the method comprising the steps of:~~

receiving, at each of a plurality of EPG loaders, EPG data from a different EPG data source;

collecting the EPG data from the EPG loaders at a writer module;

upon determining at the writer module that there is a conflict in the EPG data received from at least two of the different EPG data sources, resolving the conflict according to conflict resolution criteria;

calling a function of a ~~the~~ writer module operating at the device that collects the EPG data from the EPG loaders and that stores to store the EPG data in a database accessible by the device; and

executing the function by the writer module, thereby storing the EPG data in the database.

2. (Currently Amended) A method as in claim 1, wherein the function adds a new audio subchannel format to the stored EPG data ~~comprises AudioSubChannel having parameters comprising languageCode, isMainAudioService, isDolbyEncoded, and programType.~~

3. (Currently Amended) A method as in claim 1, wherein the function comprises AudioSubChannelForScheduleEntry having parameters comprising scheduleDataID and audioDataID ~~adds a new audio subchannel to a schedule entry in the stored EPG data.~~

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4. (Currently Amended) A method as in claim 1, wherein the function ~~comprises~~ ~~CategorizationSystems~~ having parameters comprising ~~categorizationSystemName~~ and ~~systemDataID~~ creates a new categorization system for storing the EPG data.

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5. (Currently Amended) A method as in claim 1, wherein the function ~~comprises~~ ~~CategoryPair~~ having parameters comprising ~~systemDataID~~, ~~categoryName~~, ~~subCategoryName~~, and ~~categorypairDataID~~ adds at least one of a new category and subcategory pair to the database.

6. (Currently Amended) A method as in claim 1-5, wherein the function ~~comprises~~ ~~CategoryForProgram~~ having parameters comprising ~~programDataID~~ and ~~categoryPairDataID~~ maps a category pair to a specific program.

7. (Currently Amended) A method as in claim 1, wherein the function ~~comprises~~ ~~Channel~~ having parameters comprising ~~serviceRecordID~~, ~~channel~~, ~~network~~, ~~station~~, ~~description~~, ~~channelType~~, ~~startSeconds~~, and ~~channelDataID~~ adds a new EPG channel to the database.

8. (Currently Amended) A method as in claim 1, wherein ~~the a function executed by~~ the writer module ~~comprises~~ ~~ClearAll~~ removes all EPG data from the database.

9. (Currently Amended) A method as in claim 1, wherein ~~the a function~~ comprises ~~ClearChannels~~ executed by the writer module removes all channel data from the database.

10. (Currently Amended) A method as in claim 1, wherein ~~the a function executed by~~ the writer module ~~removes all program data from the database~~ comprises ~~ClearPrograms~~.

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11. (Currently Amended) A method as in claim 1, wherein the a function executed by the writer module removes all schedule data from the database ~~comprises ClearScheduleEntries.~~

12. (Currently Amended) A method as in claim 1, wherein the a function executed by the writer module removes a specific audio subchannel from the database ~~comprises DeleteAudioSubChannel having parameter audioDataID.~~

13. (Currently Amended) A method as in claim 1, wherein the a function executed by the writer module removes a specific categorization system from the database ~~comprises DeleteCategorizationSystem having parameter systemDataID.~~

14. (Currently Amended) A method as in claim 1, wherein the a function executed by the writer module removes a specific category pair from the database ~~comprises DeleteCategoryPair having parameters comprising systemDataID, categoryName, and subCategoryName.~~

15. (Currently Amended) A method as in claim 1, wherein the a function executed by the writer module removes a specific program from the database ~~comprises DeleteChannel having parameters comprising channelObject and propertyName.~~

16. (Currently Amended) A method as in claim 1, wherein the a function executed by the writer module removes a property from a program object in the database ~~comprises DeletePropertyForProgram having parameters comprising programObject and propertyName.~~

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17. (Currently Amended) A method as in claim 1, wherein ~~the a function executed by the writer module removes a property from a schedule entry in the database~~ comprises DeletePropertyForScheduleEntry having parameters comprising scheduleEntryObject and propertyName.

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18. (Currently Amended) A method as in claim 1, wherein ~~the a function executed by the writer module removes a property from a weblink object in the database~~ comprises DeletePropertyForWeblink having parameters comprising weblinkObject and propertyName.

19. (Currently Amended) A method as in claim 1, wherein ~~the a function executed by the writer module removes a specific schedule entry from the database~~ comprises DeleteScheduleEntry having parameter scheduleEntryObject.

20. (Currently Amended) A method as in claim 1, wherein ~~the a function executed by the writer module removes a specific sharing day from the database~~ comprises DeleteSharingDay having parameter sharingDayDataID.

21-22. (Cancelled)

23. (Currently Amended) A method as in claim 1, wherein the function ~~comprises EnableDuplicateChecking having parameter preventDuplications.~~ sets a preferred result for a condition.

24. (Currently Amended) A method as in claim 1, wherein the function ~~comprises Program having parameters comprising programTitle, programDescription, yearMade, seconds, and programDataID.~~ adds a new program to the database.

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25. (Currently Amended) A method as in claim 1, wherein the function ~~comprises PropertyForChannel having parameters comprising channelDataID, name, and value.~~ adds an extensible name-value property to a specific channel.

26. (Currently Amended) A method as in claim 1, wherein the function ~~comprises PropertyForProgram having parameters comprising programDataID, name, and value.~~ adds an extensible name-value property to a specific program.

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27. (Currently Amended) A method as in claim 1, wherein the function adds an extensible name-value property to a specific schedule entry ~~comprises PropertyForScheduleEntry having parameters comprising scheduleEntryDataID, name, and value.~~

28. (Currently Amended) A method as in claim 1, wherein the function adds an extensible name-value property to a specific Weblink ~~comprises PropertyForWebLink having parameters comprising weblinkDataID, name, and value.~~

29. (Currently Amended) A method as in claim 1, wherein the function adds a new purchase string to a specific schedule entry ~~comprises PurchaseStringForScheduleEntry having parameters comprising scheduleEntryDataID and purchaseString.~~

30. (Currently Amended) A method as in claim 1, wherein the function maps a rating authority and rating to a specific program ~~comprises RatingForProgram having parameters comprising programDataID and ratingCode.~~

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31. (Currently Amended) A method as in claim 1, wherein ~~the a function comprises~~ RemoveOldScheduleEntriesAndPrograms ~~having parameter beforeThisTimeexecuted by the~~ writer module removes schedule entries and associated program, rating, category, property and Weblink data from the database prior to a specific time.

32. (Currently Amended) A method as in claim 1, wherein the function adds a new schedule entry to the database ~~comprises ScheduleEntry having parameters comprising eventID, channelDataID, start time, end time, ee, rerun, videoDataID, audioDataID, and scheduleEntryDataID.~~

33. (Currently Amended) A method as in claim 1, wherein the function adds a unique sharing day to the database ~~comprises SharingDay having parameters comprising startDay, start time, endDay, end time, and pSharingDataID.~~

34. (Currently Amended) A method as in claim 1, wherein the function links a unique sharing day to a particular channel ~~comprises SharingDayForChannel having parameters comprising channelDataID, and sharingDataID.~~

35. (Currently Amended) A method as in claim 1, wherein the function indicates a current set of updates to the database is complete ~~comprises UpdateComplete.~~

36. (Currently Amended) A method as in claim 1, wherein the function indicates the current set of updates to the EPG services storage or database is complete ~~comprises VideoSubChannel having parameters comprising language, aspectRatio, videoSourceHeight, videoSourceWidth, squarePixel, componentType, streamed, and videoDataID.~~

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37. (Currently Amended) A method as in claim 1, wherein the function creates a relationship between a schedule entry and a video subchannel comprises ~~VideoSubChannelForScheduleEntry~~ having parameters comprising ~~scheduleEntryDataID~~, and ~~videoDataID~~.

38. (Currently Amended) A method as in claim 1, wherein the function adds a Weblink to the database comprises ~~Weblink~~ having parameters comprising ~~url~~, ~~description~~, ~~startTime~~, ~~endTime~~, and ~~weblinkDataID~~.

39. (Currently Amended) A method as in claim 1, wherein the function maps a Weblink to a specific channel comprises ~~WeblinkForChannel~~ having parameters comprising ~~channelDataID~~, and ~~weblinkDataID~~.

40. (Currently Amended) A method as in claim 1, wherein the function maps a Weblink to a specific program comprises ~~WeblinkForProgram~~ having parameters comprising ~~programDataID~~, and ~~weblinkDataID~~.

41. (Currently Amended) A method as in claim 1, wherein the function maps a Weblink to a specific schedule entry comprises ~~WeblinkForScheduleEntry~~ having parameters comprising ~~scheduleEntryDataID~~, and ~~weblinkDataID~~.

42. (Currently Amended) A computer-readable medium having computer-executable instructions for performing the steps implementing the method recited in claim 1.

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43. (Currently Amended) ~~In a device having electronic program guide (EPG) data from one or more EPG data sources stored in a database associated with the device, a method for interfacing the EPG data stored in the database with one or more applications operating at the device, the method comprising the steps of~~ A method as recited in claim 1, further comprising:

calling a function of a control module operating at the device that accesses the database to retrieve the EPG data and transmits the EPG data to the one or more applications; and

executing the function by the control module.

44. (Currently Amended) A method as in claim 43, wherein the function retrieves a collection of names of known schemes for organizing programs by type ~~comprises CategorizationSystems having parameter psystems.~~

45. (Currently Amended) A method as in claim 43, wherein the function returns a time in the future at which available data end ~~comprises DataEndTime having parameter endTime.~~

46. (Currently Amended) A method as in claim 43, wherein the function returns a furthest time in the future when a program start ~~comprises HighestDataStartTime having parameter startTime.~~

47. (Currently Amended) A method as in claim 43, wherein the function returns information to confirm if valid channel and guide listings exist in the database ~~comprises IsAnyDataAvailable having parameter dataAvailable.~~

48. (Currently Amended) A method as in claim 43, wherein the function returns information to indicate if channel data exists in the database ~~comprises IsChannelDataAvailable having parameter channelDataAvailable.~~

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49. (Currently Amended) A method as in claim 43, wherein the function retrieves a collection of strings for names of known schemes for organizing content ratings~~comprises RatingSystems having parameter systems.~~

50. (Currently Amended) A method as in claim 43, wherein the function retrieves a channels collection object~~comprises AvailableChannels having parameter channels.~~

51. (Currently Amended) A method as in claim 43, wherein the function ~~comprises CancelCategoryEventRequest~~disables signaling of update events.

52-53. (Cancelled)

54. (Currently Amended) A method as in claim 43, wherein the function retrieves a collection of names of main categories within a categorization system for a given categorization system name~~comprises Categories having parameters comprising categorizationSystemName and categories.~~

55. (Currently Amended) A method as in claim 43, wherein the function returns channels matching a search value~~comprises ChannelsForProviderNetworkName having parameters comprising searchString, substringMatch and channels.~~

56. (Currently Amended) A method as in claim 43, wherein the function retrieves the Channels collection object for valid device channels with a particular channel number~~comprises ChannelsForNumber having parameters comprising serviceSpace, channel, time and channels.~~

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57. (Cancelled)

58. (Currently Amended) A method as in claim 43, wherein the function returns information indicating whether EPG data is found for a range comprises IsScheduleDataAvailable having parameters comprising startTime, endTime and scheduleDataAvailable.

59. (Currently Amended) A method as in claim 43, wherein the function retrieves a program object representing a program shown on a specified channel at a specified time comprises Program having parameters comprising serviceSpace, channel, time and program.

60. (Currently Amended) A method as in claim 43, wherein the function retrieves an end time for a program comprises ProgramEndTime having parameters comprising serviceSpace, channel, time, and endTime.

61. (Currently Amended) A method as in claim 43, wherein the function retrieves a length of a program shown comprises ProgramLength having parameters comprising serviceSpace, channel, time, and seconds.

62. (Currently Amended) A method as in claim 43, wherein the function comprises ProgramRating having parameters comprising serviceSpace, channel, time, ratingSystem, and rating retrieves a rating object for a particular program.

63. (Currently Amended) A method as in claim 43, wherein the function retrieves the start time for a particular program comprises ProgramStartTime having parameters comprising serviceSpace, channel, time, and startTime.

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64. (Currently Amended) A method as in claim 43, wherein the function retrieves a name of a program~~comprises ProgramTitle having parameters comprising serviceSpace, channel, time, and title.~~

65. (Currently Amended) A method as in claim 43, wherein the function indicates that an event should be fired when any aspect of a known categorization system of the database changes~~comprises RequestCategoryUpdateEvent.~~

66. (Currently Amended) A method as in claim 43~~65~~, wherein the function indicates that the event should be fired when a new channel has been added to the database~~comprises RequestChannelUpdateEvent.~~

67. (Currently Amended) A method as in claim 43, wherein the function returns updates occurring within a particular time range~~comprises RequestRangeUpdateEvent having parameters comprising startTime, and endTime.~~

68. (Currently Amended) A method as in claim 43, wherein the function returns all schedule time slots matching query values~~comprises ScheduleEntries having parameters comprising serviceSpace, channel, startTime, endTime, and scheduleEntries.~~

69. (Currently Amended) A method as in claim 43, wherein the function returns programs that match query values~~comprises ScheduleEntriesForCategories having parameters comprising categorizationSystem, categories, startTime, endTime, maxHits, and scheduleEntries.~~

70-71. (Cancelled)

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72. (Currently Amended) A method as in claim 43, wherein the function retrieves a collection object representing all time periods for programs whose title or description includes a particular case-insensitive string~~comprises ScheduleEntriesForStrings having parameters comprising searchStrings, substringMatch, findTitle, findDescription, startTime, endTime, maxHits, and scheduleEntries.~~

73. (Cancelled)

74. (Currently Amended) A method as in claim 43, wherein the function retrieves a collection of subcategory names for a given category name~~comprises SubCategories having parameters comprising categorizationSystemName, categoryIndex, and subCategories.~~

75. (Currently Amended) A method as in claim 43, wherein the function indicates that a new category has been added to the EPG data~~comprises OnCategoryUpdate.~~

76. (Currently Amended) A method as in claim 43, wherein the function indicates that a new channel has been added to the EPG data~~comprises OnChannelUpdate.~~

77. (Currently Amended) A method as in claim 43, wherein the function indicates that the EPG data within a particular time range has changed~~comprises OnRangeUpdate.~~

78. (Currently Amended) A computer readable medium having computer executable instructions for performing implementing the method~~the steps~~ recited in claim 43.

79. (New) A method as recited in claim 1, wherein the conflict resolution criteria includes prioritizing each EPG loader with a different priority, and wherein resolving the conflict includes giving precedence to EPG data received from EPG loaders having higher priority.

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80. (New) A method as recited in claim 1, wherein the conflict resolution criteria includes giving each EPG loader equal priorities, and wherein resolving the conflict includes giving precedence to EPG data that is received most recently.

81. (New) A method as recited in claim 1, wherein resolving the conflict includes allowing a user to select a conflict resolution scheme.

82. (New) A method as recited in claim 81, wherein allowing the user to select a conflict resolution scheme includes allowing a user to assign a priority to the EPG loaders.

83. (New) A method as recited in claim 1, wherein resolving the conflict includes allowing an application to select a conflict resolution scheme.
